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Foreign Priority

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Parties**Assignees**

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5

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8

(56) [Cited Reference(s)]

[Literature]

Japan Unexamined Patent Publication Hei5-88398(JP,A)

[Literature]

Japan Unexamined Patent Publication Hei5-65388(JP,A)

[Literature]

Japan Unexamined Patent Publication Hei4-225060(JP,A)

[Literature]

European Unexamined Patent Publication524731(EP,A)

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Netherlands(NL)

(73) [Patent Rights Holder]

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GENERAL ELECTRIC COMPANY

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United States Of America, New York, Schenectady, River Road, 1*

Inventors

(72)□□□□□

(72) [Inventor]

□□□□

[Name]

□□□□□□□□□□□□□□□□

Johann**co-*Lis***sense

□□□□□□□□

[Address]

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Netherlands, 4708, E P*Rosen Dahl, A bar bell*, 7*

(72)□□□□□

(72) [Inventor]

□□□□

[Name]

□□□□□□□□□□□□□□□□□□□□□□□□

jp11 Burt***Leona jp11 Das*glue Switzerland

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[Address]

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Netherlands, 4611, L. W*bell*****P*zoom, Linde burn, 85*

□□□□□□□□

(72)□□□□□

(72) [Inventor]

□□□□

[Name]

□□□□□□□□□□□□□□□□□□□□□□

Hen*jp9***jp15*****Eugene*****

□□□□□□□□

[Address]

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Netherlands, 4707, S.**jp7*Rosen Dahl, buoy**bell*, 15*

□□

Agents

(74)□□□□□

(74) [Attorney(s) Representing All Applicants]

□□□□□

[Patent Attorney]

□□□□□□□□

[Name]

□□ □□

Oinuma **

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[Examiner]

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Okuma Koji

Claims

(57)□□□□□□□□

(57)[Claim(s)]

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[Claim 1]

(A)-(C): (A) aromatic polycarbonate; which does not have the (A) polysiloxane block

Below-mentioned component (A) - (C): aromatic polycarbonate; which does not have the (A) polysiloxane block

(B) styrene-containing graft polymer which has (B) styrene-containing copolymer and/or rubbery graft base, said graft polymer of 50 - 100 weight% and those which consist of said copolymer of 0 - 50 weight%; and

With styrene-containing graft polymer which has (B) styrene-containing copolymer and/or rubbery graft base, said graft polymer of 50 - 100 weight% and those which consist of said copolymer of 0 - 50 weight%; and

(C) polysiloxane-polycarbonate block copolymer;

(C) polysiloxane-polycarbonate block copolymer;

component (A) and component (B) and per 100 parts by weight of total, of component (C)

component (A) and component (B) and per 100 parts by weight of total, of component (C)

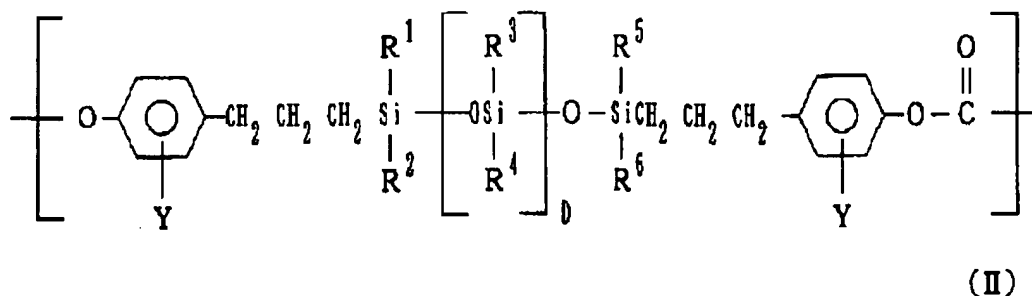
<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/>	component _____ weight%	
<input type="checkbox"/>	_____	
<input type="checkbox"/>	component _____ weight%	
<input type="checkbox"/>	_____	<input type="checkbox"/>
<input type="checkbox"/>	component (C) _____ weight%	<input type="checkbox"/>

blend above-mentioned component (C) as Formula (a) (II):

blend above-mentioned component (C) as Formula (a) (II):

1

[Chemical Formula 1]

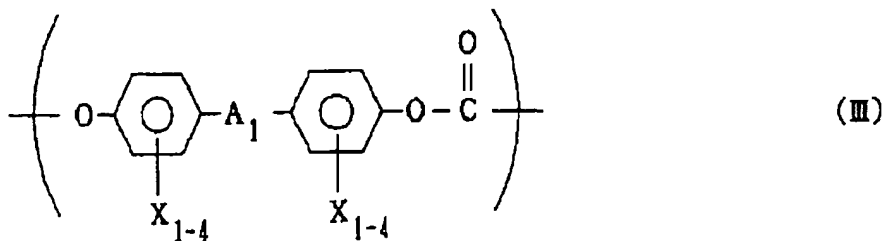


polysiloxane block 1-50 weight% and Formula (b) (III):

polysiloxane block 1-50 weight% and Formula (b) (III):

2

[Chemical Formula 2]

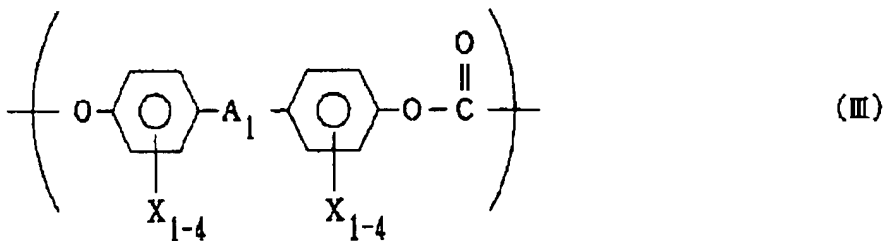


Including polysiloxane-polycarbonate block copolymer which configuration is done with polycarbonate block 50-99 weight% (However, divalent hydrocarbon group, $-S-$, $-S-S-$, $-S$ where R^{1} , R^{2} , R^{3} , R^{4} , R^{5} and R^{6} each one independently display hydrogen atom, hydro carbyl group or halogenation hydro carbyl group mutually in the above-mentioned Formula (II) and (III); as for D with integer 5-140; as for Y with hydrogen atom or alkoxy group; as for A^{1} have optionally substitutable 1-15 carbon atoms (O)-, $-S(O)-$, $-O-$, or with $-C-$; And each X independently is hydrogen atom, halogen, or monovalent hydrocarbon group mutually.), the polymer mixture* which becomes and makes feature

[Claim 2]

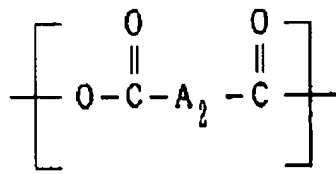
polycarbonate block of polysiloxane-polycarbonate block copolymer (C) which is included in said polymer mixture
Formula (III)):

[Chemical Formula 3]



unit75-99weight% and Formula of (In Formula, A₁ and X have aforementioned meaning.) (IV):

[Chemical Formula 4]



(IV)

(A_2 6-18 炭素原子を含むアルキレン基)を含有する 1-25 重量%のポリカーボネートと、
1 重量%のポリシロキサンを含む

3

(C)のポリシロキサンと(B)のポリカーボネートの含有量を、
(A)のポリシロキサン、(B)のポリカーボネート、(C)のポリシロキサン
2.5-25 重量%の範囲に調整し、
1 重量%のポリシロキサンを含む

4

(B)のポリシロキサン(1)と、 α -メチルstyrene、
methacrylonitrile、acrylonitrile、maleic anhydride、
maleic anhydride、styrene、 α -methylstyrene、
aromatic core、rubber component (3)の含有量を、
1 重量%のポリシロキサンを含む

5

(B)のポリシロキサン(1)と、 α -メチルstyrene、
methacrylonitrile、acrylonitrile、maleic anhydride、
maleic anhydride、styrene、 α -methylstyrene、
aromatic core、rubber component (3)の含有量を、
1 重量%のポリシロキサンを含む

Specification

00001

00001

00001

(A)のポリシロキサン、(B)のポリカーボネート、
(C)のポリシロキサン-ポリカーボネートブロック
共重合体、
00001

It is something which configuration is done from aliphatic diester unit 1-25 weight% of (In Formula, $\text{A}_{2</sub>2</sub>$ is alkylene group which has 6 - 18 carbon atom.) and polymer mixture* which is stated in Claim 1 which is made feature

[Claim 3]

content of polysiloxane unit in component (C) and total of content of rubbery graft base in component (B), calculating component (A) and component (B) and on basis of total weight of component (C), it is a range of 2.5 - 25 weight% and polymer mixture* which is stated in Claim 1 which is made feature

[Claim 4]

said polymer mixture, graft does blend of styrene and derivative and/or acrylic monomer of the (2) methacrylonitrile and/or acrylonitrile and/or maleic anhydride and/or maleic anhydride where (1) styrene and/or; α -methylstyrene and/or aromatic core is substituted on (3) rubber component (B) as, containing graft polymer which is acquired by the polymer mixture* which is stated in Claim 1 which becomes and makes feature

[Claim 5]

said polymer mixture, containing copolymer which configuration is done from unit which was induced from derivative and/or acrylic monomer of styrene and (2) methacrylonitrile and/or acrylonitrile and/or maleic anhydride and/or maleic anhydride where (1) styrene and/or; α -methylstyrene and/or aromatic core is substituted component (B) as, polymer mixture* which is stated in Claim 1 which becomes and makes feature

[Description of the Invention]

[0001]

[Field of Industrial Application]

this invention containing aromatic polycarbonate, (B) styrene-containing copolymer and/or styrene-containing graft polymer, and (C) polysiloxane-polycarbonate block copolymer which do not include (A) polysiloxane block, regards polymer mixture which becomes.

[0002]

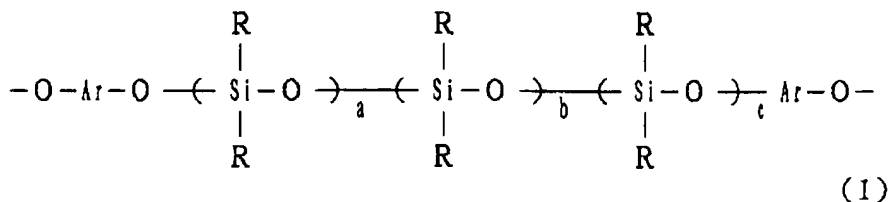
[Prior Art]

Containing aromatic polycarbonate, styrene-containing graft polymer, for example ABS, and polysiloxane-polycarbonate block copolymer, polymer mixture which becomes European Patent (EP) is disclosed in -A-0135794 specification.

Regarding this Prior Art, Formula (I):

[0003]

[Chemical Formula 5]



[0004]

Including polysiloxane block, polysiloxane-polycarbonate block copolymer which becomes is used.

In above Formula (I), Ar is arylene group which is acquired from the biphenol.

According to EP-A-0135794 specification, containing polysiloxane block 2.5-25 weight% of Formula (I), and the block 97.5-75 weight% which has polycarbonate structure block copolymer which becomes is used.

When consisting of blend of polycarbonate to which polymer mixture which you follow EP-A-0135794 specification does not include polysiloxane-polycarbonate block copolymer or polysiloxane block, content of polysiloxane block in this blend must be range of 2.5 or 25 weight%.

[0005]

[Gist of Invention]

As for this invention, as for polymer mixture which has property which is improved when it can acquire a certain specific polysiloxane-polycarbonate block copolymer is used with, it is something which is based on knowledge.

Especially, according to this system, polymer mixture which has satisfactory impact strength can be acquired.

[0006]

Regarding polymer mixture which you follow this invention, following component:

Formula (a) (II):

[0007]

[0002]

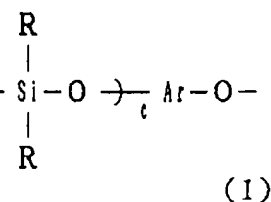
[Prior Art]

Containing aromatic polycarbonate, styrene-containing graft polymer, for example ABS, and polysiloxane-polycarbonate block copolymer, polymer mixture which becomes European Patent (EP) is disclosed in -A-0135794 specification.

Regarding this Prior Art, Formula (I):

[0003]

[Chemical Formula 5]



[0004]

Including polysiloxane block, polysiloxane-polycarbonate block copolymer which becomes is used.

In above Formula (I), Ar is arylene group which is acquired from the biphenol.

According to EP-A-0135794 specification, containing polysiloxane block 2.5-25 weight% of Formula (I), and the block 97.5-75 weight% which has polycarbonate structure block copolymer which becomes is used.

When consisting of blend of polycarbonate to which polymer mixture which you follow EP-A-0135794 specification does not include polysiloxane-polycarbonate block copolymer or polysiloxane block, content of polysiloxane block in this blend must be range of 2.5 or 25 weight%.

[0005]

[Gist of Invention]

As for this invention, as for polymer mixture which has property which is improved when it can acquire a certain specific polysiloxane-polycarbonate block copolymer is used with, it is something which is based on knowledge.

Especially, according to this system, polymer mixture which has satisfactory impact strength can be acquired.

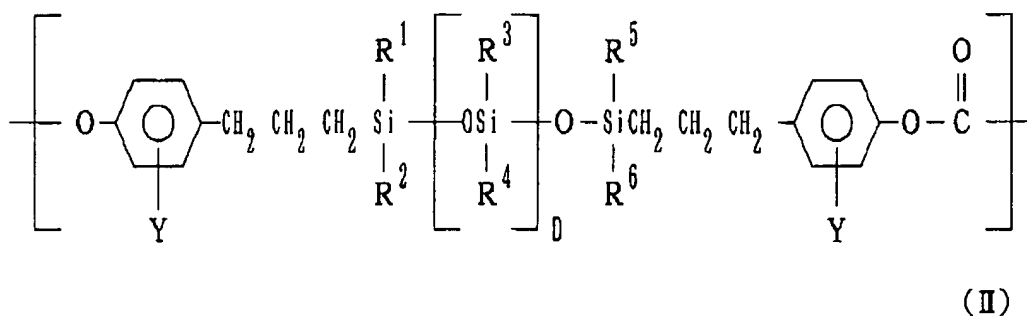
[0006]

Regarding polymer mixture which you follow this invention, following component:

Formula (a) (II):

[0007]

[Chemical Formula 6]

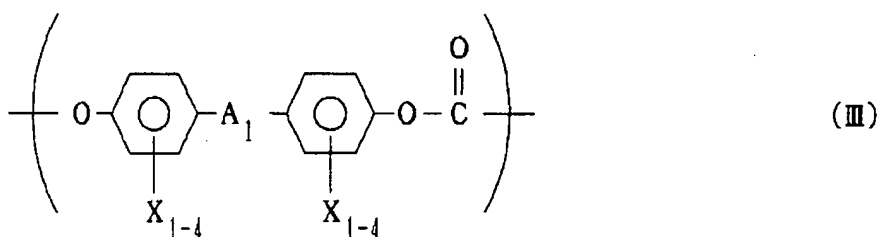


[0008]

polysiloxane block1-50weight%; and Formula (b) (III):

[0009]

[Chemical Formula 7]



[0010]

polysiloxane-polycarbonate block copolymer which configuration is done is used from polycarbonate block 50-99 weight%.

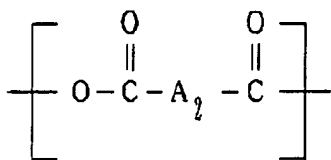
In above Formula (II) and (III), R¹, R², R³, R⁴, R⁵ and R⁶ each one independently display hydrogen atom, hydro carbyl group or halogenation hydro carbyl group mutually and; as for the D with integer 5 - 140; as for Y with hydrogen atom or the alkoxy group; as for A₁ divalent hydrocarbon group, -S-, -S-S-, -S which has optionally substitutable 1-15 carbon atoms (O)-, -S the(O)₂-, -O-, or; and as for each X independently it is a hydrogen atom, halogen, or a monovalent hydrocarbon group mutually with -C-.

[0011]

In polymer mixture which you follow {detailed disclosure of invention} this invention, before with polysiloxane-polycarbonate block copolymer of type which was inscribed, as for 75 - 99 weight% of polycarbonate block before as for unit, and 1 - 25 weight% of Formula (III) which was inscribed Formula (IV) :

[0012]

[Chemical Formula 8]



(IV)

[0013]

Those of type which configuration is done can be used from aliphatic diester unit (In Formula, as for A₂; and A₁ and X have aforementioned meaning with alkylene group which has 6 - 18 carbon atom.).

As for polymer mixture which you follow this invention, preferably, component (A) and component (B) and per 100 parts by weight of total, of component (C)

- component (A) 50 - 90 weight%, more preferably 60-80 weight%;
- component (B) 2 - 40 weight%, more preferably 5-20 weight%; and
- component (C) 2 - 40 weight%, more preferably 5-20 weight%;

Being something which empty configuration is done, furthermore, component (B) becomes including said graft polymer of 50 - 100 weight% and said copolymer of 0 - 50 weight%.

[0014]

content of polysiloxane unit in component (C) and total of content of rubbery graft base in component (B) calculating component (A) and component (B) and on the basis of total weight of component (C), are inside range of 2.5 or 25 weight%, it is desirable .

blend of styrene and derivative and/or acrylic monomer of (2) methacrylonitrile and/or acrylonitrile and/or maleic anhydride and/or maleic anhydride where (1) styrene and/or; al -methylstyrene and/or aromatic core is substituted graft is done on (3) rubber, as styrene-containing graft polymer which has rubbery graft base, uses in polymer mixture which follows the graft polymer which is acquired by this invention is desirable.

[0015]

polymer mixture which you follow this invention can contain copolymer which the configuration is done from derivative and/or acrylic monomer of styrene and (2) methacrylonitrile and/or acrylonitrile and/or maleic anhydride and/or maleic anhydride where the (1) styrene and/or α -methylstyrene and/or aromatic core is substituted as styrene-containing

[0016]

When polymer mixture which you follow this invention you mention earlier contain blend of styrene copolymer and styrene graft polymer can.

In addition as for this invention, it is something which offers goods which was formed from polymer mixture which you follow this invention.

polymer mixture which you follow this invention has little, * component is contained.

namely,

A. aromatic polycarbonate; and

B. styrene-containing copolymer and/or styrene-containing graft polymer; and

C. polysiloxane-polycarbonate block copolymer*

[0017]

polymer mixture which you follow this invention furthermore can contain one kind of following component or above that.

namely,

<div>□□</div> <hr/> <div>□□</div>	<div>□□□□</div> <hr/> <div>flame retarding agent□</div>		
<div>□□</div> <hr/> <div>□□</div>	<div>□</div> <hr/> <div>□</div>	<div>□□□□</div> <hr/> <div>□□□□</div>	<div>□□□□</div> <hr/> <div>additive□</div>

Being attached, you explain.

A. aromatic polycarbonate which does not include A.

polysiloxane block

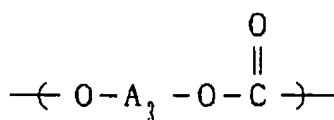
aromatic polycarbonate is that itself known substance.

These of bivalent phenol compound and are produced generally with reaction with the carbonate precursor, for example phosgene, haloformate or carbonate ester.

As for aromatic polycarbonate Formula (V):

[0018]

[Chemical Formula 9]



(V)

[0019]

(A_3 2) 2

2

4,001,184

[0020]

3,169,121

[0021]

B. EP-A-0174493 EP-A-0135794

[0022]

(1) α - (2)

N-

(meth) acrylic acid.

[0023]

[0019]

Including unit of (In Formula, $A_{>3}$ is divalent aromatic group which is induced from bivalent phenol which is used for production of said polymer.), it is a polymer which becomes.

Each one monocycle or polycyclic aromatic compound which includes hydroxyl group of 2 the direct bond it is done at time of producing aromatic polycarbonate in carbon atom of aromatic core it can use as bivalent phenol.

When it is stated in for example U. S. Patent No.4,001,184specification, also that itself known branched polycarbonate issuitable.

[0020]

ester precursor, for example terephthalic acid or polymerization reaction is done under existing of bifunctional carboxylic acid, like the ester-forming derivative, also so-called polyester carbonate which is acquired by is suitable aromatic polycarbonate.

These polyester carbonate have ester compound and carbonate compound in polymer chain.

polyester carbonate is stated in for example U. S. Patent No.3,169,121specification.

[0021]

It can also use blend of various polycarbonate.

styrene-containing graft polymer which has base for B. styrene-containing copolymer and/or rubbery graft

suitable styrene-containing copolymer and suitable styrene-containing graft polymer are stated in for example EP-A-0174493 number and EP-A-0135794specification.

[0022]

styrene-containing copolymer (1) styrene and/or;al -methylstyrene and/or aromatic core is copolymer which configuration is donefrom unit which is induced from derivative and/or acrylic monomer of styrene compound and (2) acrylonitrile and/or methacrylonitrile and/or maleic anhydride and/or maleic anhydride which are substituted in.

suitable derivative of maleic anhydride is maleimide and N-phenyl maleimide.

Example of suitable acrylic monomer is methyl methacrylate, (meth) acrylic acid.

Being that itself known, these following to method which is usuallyused for production of copolymer it can acquire these copolymer.

[0023]

EPDM rubber is suitable for grafting.

Example of base for suitable graft is polybutadiene, butadiene-styrene copolymer.

It is thought that also other rubber, for example acrylate rubber and EPDM rubber are suitable.

Next, monomer blend grafting is done on said rubber.

suitable monomer is shown in aforementioned Claim 5.

C. polysiloxane-polycarbonate block copolymer

When polymer mixture which you follow this invention it is shown in the aforementioned Claim 1 or 2 polysiloxane-polycarbonate block copolymer contains.

When in aforementioned Claim 1 specific it is done, in EP-A-92305883 specification (priority right which is based on 1991 July 1 day attaching U.S. Patent Application SN.724,022 numbers) of 1992 June 25 day applications block copolymer and those production method are disclosed.

[0024]

When in aforementioned Claim 2 specific it is done, in EP-A-92305886 specification (priority right which is based on 1991 July 1 day attaching U.S. Patent Application SN.724,018 numbers) of 1992 June 25 day applications block copolymer and those production method are disclosed.

When it is used for this invention, polymer mixture of polycarbonate and block copolymer is disclosed in EP-A-92305885 specification (priority right which is based on 1991 July 1 day attaching U.S. Patent Application SN.724,023 numbers) of 1992 June 25 day applications.

[0025]

It can use in polymer mixture which follows everything of polysiloxane-polycarbonate block copolymer which is stated in patent application specification of aforementioned 3 cases this invention.

D. flame retardant

polymer mixture which you follow this invention one kind or can contain the flame retardant agent above that.

flame resistance of polycarbonate polymer and/or styrene-containing copolymer or styrene-containing graft polymer is improved can use everything of usual flame retardant agent which is suited.

flame retardant agent which is shown next is something for illustrating:

salt;- halogen-containing low molecular weight and/or high

blend of monomer of at least two kinds grafting it does styrene-containing graft polymer on the base for rubbery graft, it is acquired by .

Example of base for suitable graft is polybutadiene, butadiene-styrene copolymer.

It is thought that also other rubber, for example acrylate rubber and EPDM rubber are suitable.

Next, monomer blend grafting is done on said rubber.

suitable monomer is shown in aforementioned Claim 5.

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[0024]

When in aforementioned Claim 2 specific it is done, in EP-A-92305886 specification (priority right which is based on 1991 July 1 day attaching U.S. Patent Application SN.724,018 numbers) of 1992 June 25 day applications block copolymer and those production method are disclosed.

When it is used for this invention, polymer mixture of polycarbonate and block copolymer is disclosed in EP-A-92305885 specification (priority right which is based on 1991 July 1 day attaching U.S. Patent Application SN.724,023 numbers) of 1992 June 25 day applications.

[0025]

It can use in polymer mixture which follows everything of polysiloxane-polycarbonate block copolymer which is stated in patent application specification of aforementioned 3 cases this invention.

D. flame retardant agent

polymer mixture which you follow this invention one kind or can contain the flame retardant agent above that.

flame resistance of polycarbonate polymer and/or styrene-containing copolymer or styrene-containing graft polymer is improved can use everything of usual flame retardant agent which is suited.

flame retardant agent which is shown next is something for illustrating:

salt;- halogen-containing low molecular weight and/or high

molecular weight compound; and/or which has flame resistance vis-a-vis -aromatic polycarbonate

[0028]

polymer mixture following to usual method for producing polymer mixture, the kneading does for example necessary component in extruder, it can acquire with.

polymer mixture which you follow this invention component (A) + (B) per 100 parts by weight, following component of + (C) can contain (D) and (E).

D. one kind or flame resistance modifier 0-20 parts by weight; and/or

E. usual additive 0-100 parts by weight*

[0029]

{Statement of Working Example } Working Example (Working Example I or VIII) and listing Comparative Example (Comparative Example A or F) next, furthermore you explain this invention concretely.

Following component was used regarding Comparative Example A and Working Example I, II and III of the next description.

aromatic polycarbonate homopolymer; which has weight average molecular weight 25,500 which was induced from PC-1: bisphenol A, and phosgene does not include polysiloxane block

aromatic polycarbonate homopolymer; which has weight average molecular weight 28,000 which was induced from PC-2: bisphenol A, and phosgene does not include polysiloxane block

ABS: styrene and acrylonitrile on butadiene rubber graft bond graft copolymer; which the configuration is done substantially from butadiene rubber which has rubber content of approximately 50 weight% which are done

weight ratio 72:28 of SAN-1: styrene: acrylonitrile styrene-acrylonitrile copolymer; which has weight average molecular weight of having and 100,000

weight ratio 72:28 of SAN-2: styrene: acrylonitrile styrene-acrylonitrile copolymer; which has weight average molecular weight of having and 130,000

polysiloxane block 43 wt% of LR: Formula (I) (Aforementioned reference) and polysiloxane-polycarbonate block copolymer* which has polycarbonate block 57 weight% of the Formula (III) (Aforementioned reference)

Everything of R group in Formula (I) displays methyl group, as for the Ar with arylene group which was induced from bisphenol A, and, total of a+b+c is being even, 10.

[0030]

weight average molecular weight of LR is approximately 60,000.

XT-1: (II) () 43 wt%
(III) () 57 wt%
- ()

R^1 R^2 D 10
Y A_1 2,2- X
()

[0031]

XT-1 50,000

XT-2: (II) () 20 wt%
(III) () 80 wt%
- ()

R^1 R^2 D 50
Y A_1 2,2- X
()

[0032]

XT-2 30,000

() A B
()

A F
I VIII

()
()

()

()
(ASTM D256
(), (Charpy) (DIN 53453
())

[0033]

ISO 1133

A B

A

polysiloxane block 43 wt% of XT-1: Formula (II)
(Aforementioned reference) and polysiloxane-polycarbonate
block copolymer* which has polycarbonate block 57 weight%
of the Formula (III) (Aforementioned reference)

In Formula, as for $R^{>1}$ and $R^{>2}$ with
all methyl group, as for D being even, with 10, as for Y with
hydrogen atom, 2 and 2-propyl group you display $A_{>1}$
, and X is hydrogen atom.

[0031]

weight average molecular weight of XT-1 is approximately
50,000.

polysiloxane block 20 weight% of XT-2: Formula (II)
(Aforementioned reference) and polysiloxane-polycarbonate
block copolymer* which has polycarbonate block 80 weight%
of the Formula (III) (Aforementioned reference)

In Formula, $R^{>1}$ and $R^{>2}$ everything
with methyl group, the D being even, with 50, as for Y with
hydrogen atom, as for the $A_{>1}$ with 2 and 2
-propyl group, and as for X are hydrogen atom.

[0032]

weight average molecular weight of XT-2 is approximately
30,000.

From component which mentions earlier various polymer
mixture, however using at the Table A of postscript and ratio
which is shown in chart B, it produced.

As for Comparative Example A or F being something
regarding Comparative Example which shows Prior Art, as
for Working Example I or VIII it is something regarding
polymer mixture which you follow this invention.

component which is appointed kneading it does these various
polymer mixture in the extruder, it produced with .

extrusion body which is acquired was formed next in pellet.

It produced standardization test rod from pellet with injection
molding, measured those notched Izod impact strength with
various temperature and (In ASTM test method D256
following), furthermore it measured also notched impact
strength with char P (charpy) test (In DIN test method 53453
following).

[0033]

It measured also melt viscosity exponent which you follow
ISO test method 1133.

These test result are recorded to Table A and chart B
of postscript.

Table A

□□□(□□□) A B C I II III

□□(□□□)

□□□ No. 73 74 76 81 83 85

PC-1 60 55 58 48 55 58

SAN-1 22 22 22 22 22 22

ABS 18 18 10 10 18 10

LR - 5 10 - - -

XT-1 - - - - 5 10

XT-2 - - - 20 - -

□□□□(□□%) 9.0 11.3 9.3 9.0 11.3 9.3

□□

Working Example (Comparative Example) A B C I II III

composition (parts by weight)

compositionNo. 73 74 76 81 83 85

PC-1 60 55 58 48 55 58

SAN-1 22 22 22 22 22 22

ABS 18 18 10 10 18 10

LR - 5 10 - - -

XT-1 - - - - 5 10

XT-2 - - - 20 - -

rubber content (weight%) 9.011.39.39.011.39.3

property

□□□,260□/5kg			12	16	80	19	12	14
□□□,260□/5kg			12	16	80	19	12	14
□□□□□□□□ notched Polygonum tinctorium (indigoplant leaf)□□		□ jp7						
□□□□□ +23□ -20□ -49□ impact strength □ +23□ -20□ -49□			570390200 570390200	540270120 540270120	205030 205030	530520430 530520430	620500290 620500290	620490280 620490280
□□□□□□□□ char P notched								
□□□□□ +23□ impact strength □ +23□			29 29	32 32	16 16	54 54	43 43	41 41

*□□□□:ABS □□□□□□□□□□ LR□XT-1 □□

XT-2 □□□□□□□□□□□□□□□□□□□□□□□□

□%□□□□□□□□

□0034□

polybutadiene content and it calculated LR, XT-1 or XT-2 in

*rubber content:ABS from polysiloxane content, in it
displayed as weight% for polymer mixture.

[0034]

			□□ □□					
□□□□□□□□	□	□	□	IV	□	VI	VI	VIII
Working Example	□	□	□	IV	□	VI	VI	VIII

<div><div><div>Comparative</div><div>Example</div></div></div>									
<div><div><div>91 92 93 94 57 60 64 58 25 25 25 25 18 10 6 5 5 17 9.0 7.2 5.2 7. 2605kg 11 20 29 16 +23 570 480 510 540 -20 480 150 150 470 -40 280 150 80 370</div><div>compositionparts by weight composition 91 92 93 94 PC 57 60 64 58 25 25 25 25 18 10 6 5 5 17 rubber content weight% 9.0 7.2 5.2 7. property 2605kg 11 20 29 16 notched Izod impact strength +23 570 480 510 540 -20 480 150 150 470 -40 280 150 80 370 char P notched</div></div></div>	<div><div><div>95 60 25 10 5 7. 15620530210</div><div>95 60 25 10 5 7. 15620530210</div></div></div>	<div><div><div>96 54 25 10 11 7. 17670600170</div><div>96 54 25 10 11 7. 17670600170</div></div></div>	<div><div><div>97 58 25 6 11 5. 18650560190</div><div>97 58 25 6 11 5. 18650560190</div></div></div>	<div><div><div>98 39 25 36 7.2 20480890570</div><div>98 39 25 36 7.2 20480890570</div></div></div>					
<div><div><div>+23</div><div>impact strength</div></div></div>	<div><div><div>19</div><div>19</div></div></div>	<div><div><div>16</div><div>16</div></div></div>	<div><div><div>30</div><div>30</div></div></div>	<div><div><div>38</div><div>38</div></div></div>	<div><div><div>45</div><div>45</div></div></div>	<div><div><div>44</div><div>44</div></div></div>	<div><div><div>46</div><div>46</div></div></div>	<div><div><div>31</div><div>331</div></div></div>	

*□□□□:□ A □□□□□□□□

Note reference under *rubber content:Table A.

0035

[0035]

[illegible]

From Table A, addition (Comparative Example B and C) of usual polysiloxane-polycarbonate block copolymer brings marked decrease of impact strength, it is recognized.

[illegible]

As for this concerning notched impact value which you follow notched impact value and the Char P method in all measurement temperature which you follow Izod method it is applicable.

□ □ □ □ □ □ □ □ □ □ □ □

Also melt viscosity exponent increases.

00000000(I0II 00 III)00000000000000
 000000000000000000000000-00000000
 0000000000000000 A 00000000000000
 000000000000000-0000000000000000
 000000 B 00 C 000000000000000000
 0000

Regarding Working Example (I, II and III) which you follow this invention being satisfactory in comparison with measured value in Comparative Example A where satisfactory notched impact value is acquired for most part by always, these does not include the polysiloxane-polycarbonate block copolymer, always many times it shows satisfactory value at least furthermore in comparison with when it is a Comparative Example B and a C which use usual polysiloxane-polycarbonate block copolymer.

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

melt viscosity exponent does not show marked increase that much.

□0036□

[0036]

B _____(_____
_____)_____-(_____(_____)_____

With Working Example and Comparative Example which you follow chart B, another polycarbonate (Those which have a

□□□□□□□□□□□□□□□□

higher molecular weight.) and another styrene-acrylonitrile copolymer (Those which have a higher molecular weight.) was used.

□□□□□□□□ A □□□□□□□□□□□□□□□□

These results show status which is similar to result of the Table A.

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
□□□□□□□□□□□□□□□□

As for patent and patent application specification which quotation are done you regard the thing which is incorporated in this specification as reference material of the this invention on description above.